



U.S. Department of Energy
Energy Efficiency and Renewable Energy

Energy Savings Assessments: *Effective Response to a Secretarial Initiative*

ITP Peer Review

September 7, 2006

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U.S. Department of Energy
Energy Efficiency and Renewable Energy

Pressing Energy Supply and Cost Issues

“America’s businesses, factories, and manufacturing facilities use massive amounts of energy. To help them during this period of tightening supply and rising costs, our Department is sending teams of qualified efficiency experts to 200 of the nation’s most energy-intensive factories. Our Energy Saving Teams will work with on-site managers on ways to conserve energy and use it more efficiently.”



Secretary of Energy
Samuel W. Bodman



**Secretary of Energy Bodman
National Press Club
October 3, 2005**



ITP Mobilized Existing Capabilities

- Suite of respected software tools for assessing plant systems
- Established training programs
- Cadre of Qualified Specialists in various assessment tools/systems
- Network of university-based Industrial Assessment Centers (IACs)
- In-depth experience in conducting plant energy assessments
- Strong partnerships and high credibility with influential companies in the manufacturing sector



Secretary Bodman at the
Caterpillar Tractor ESA



Energy Savings Assessment Process



- Teams composed of DOE Energy Experts and plant personnel
- Teams focus on either steam generation or process heating
- Plant personnel and affiliates are trained on DOE software tools
- Outreach extended via IACs, CDs, letters to CEOs, website, Info Center, and webcasts





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Give a man a fish
and he will eat for
a day

Teach a man to
fish
and he will eat for
a lifetime





Energy Savings Assessment Status

- 142 Energy Savings Assessments completed (out of 200 planned this year)
- With 115 assessments reporting:
 - Total potential natural gas savings of **31.4 trillion Btu per year** – equal to 436,000 U.S. homes
 - Total cost savings potential identified = over \$288 million per year



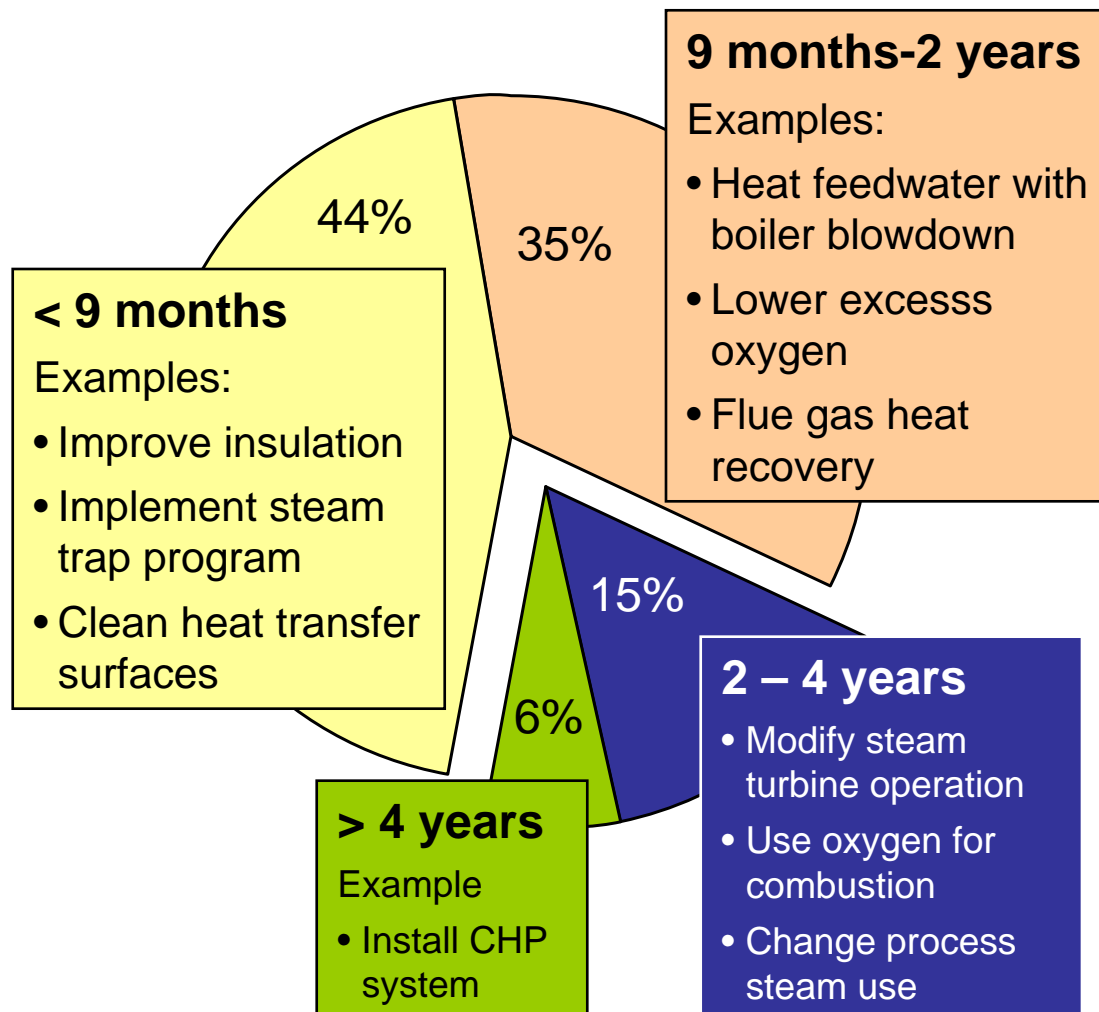
- Completed Assessments
- Scheduled Assessments

“While [Dow] has been a leader in energy efficiency, with DOE’s help, we found yet more cost-effective opportunities to save precious energy.”

John Dearborn,
Global Business VP, Energy, Dow



Near-Term Opportunities Found



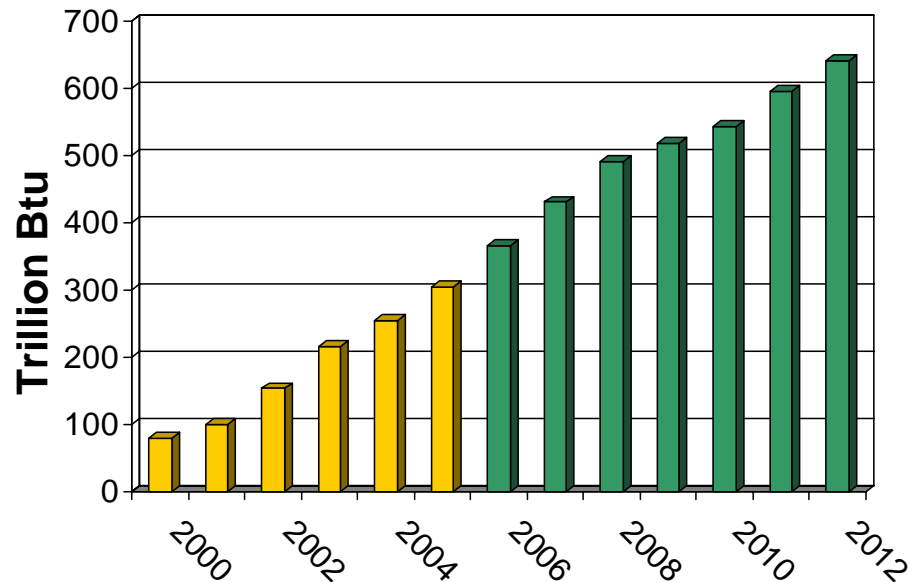
After 6 months, plants are reporting energy savings implementation:

- 14 plants are implementing projects that will save \$32 million per year after 6 months
- 6 of 11 have replicated projects that will save \$3 million per year



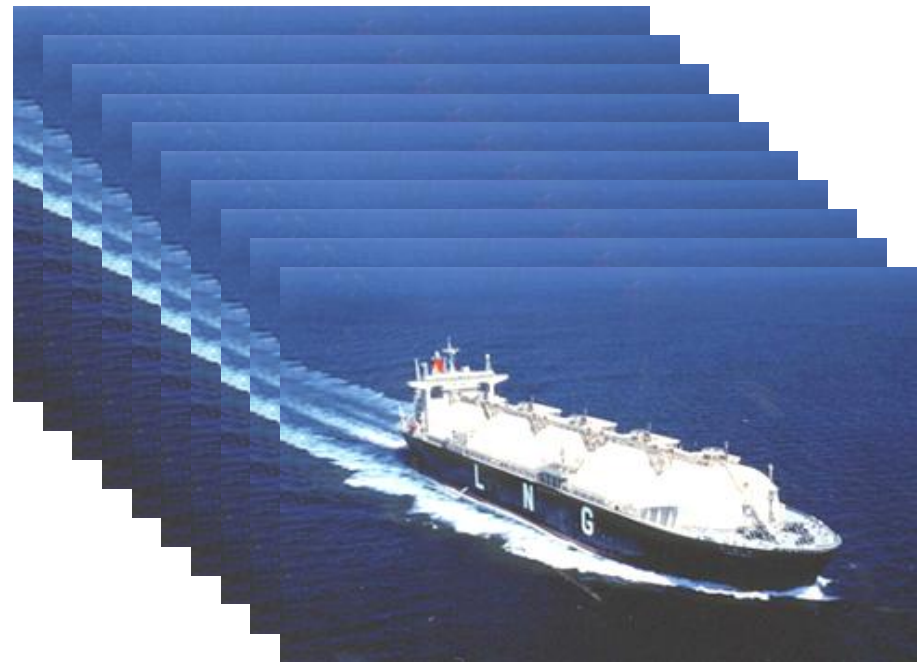
Measuring ITP Results

Energy Savings, FY01-12



By 2012, we should save 2% of U.S. natural gas use. While models of price elasticity vary, we can conservatively estimate this decrease in demand should lower prices by 4-10%.

By 2008, the ESAs of 2006 will save each year the amount of natural gas carried by 10 LNG tankers.





Save Energy Now – Moving into 2007

- ✓ **Target 250 ESAs in Calendar Year 2007**
 - Compare to 200 in Calendar Year 2006
- ✓ **Greater cost share**
 - 3rd parties able to cost share ESAs
 - Additional cost shared ESAs available to applicants
- ✓ **More energy system types (and more QS)**
 - Add compressed air, pump, and fan systems
- ✓ **Expanded outreach**
 - Communications to 3,500 large energy using plants
 - Work with trade associations
- ✓ **Increase implementation and replication**
 - Continual follow-up by ITP field team (MEPs)
 - Publicity and case studies for companies replicating
 - **Recognition program for high implementers**





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Training on Systems and Decision Tools

DOE and its partners offer system-wide and component-specific training programs to help you run your plant more efficiently. The training is offered throughout the year and around the country.

- Steam Systems
- Process Heating Systems
- Pump Systems
- Compressed Air Systems
- Fan Systems

Webcasts (1-2 hours)

Awareness workshops (usually 1-2 hours)

End-user training (1-2 days)



For details, visit

[www.eere.energy.gov/industry/
bestpractices/events_calendar.asp](http://www.eere.energy.gov/industry/bestpractices/events_calendar.asp)



Plant Energy Profiler (PEP) Tool

Provides a mill or plant a quick method for answering these questions:

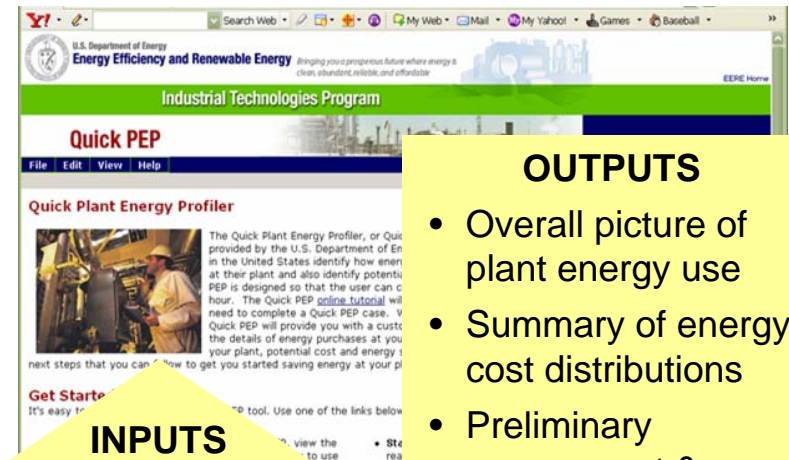
- Where is my energy going?
- What is my potential for improvement?
- What resources are available to help me?

Within a few hours you will have :

- An overall picture of plant energy use
- A summary of energy cost distribution
- Estimated energy cost savings potential

At minimum, you will need :

- A monthly bill for each purchased energy stream (electricity, fuel & steam)
- Plant production data for the same month (optional)



INPUTS

- Plant description
- Utility supply data – electricity, fuel & steam
- Energy consuming system information
- Scorecard responses

OUTPUTS

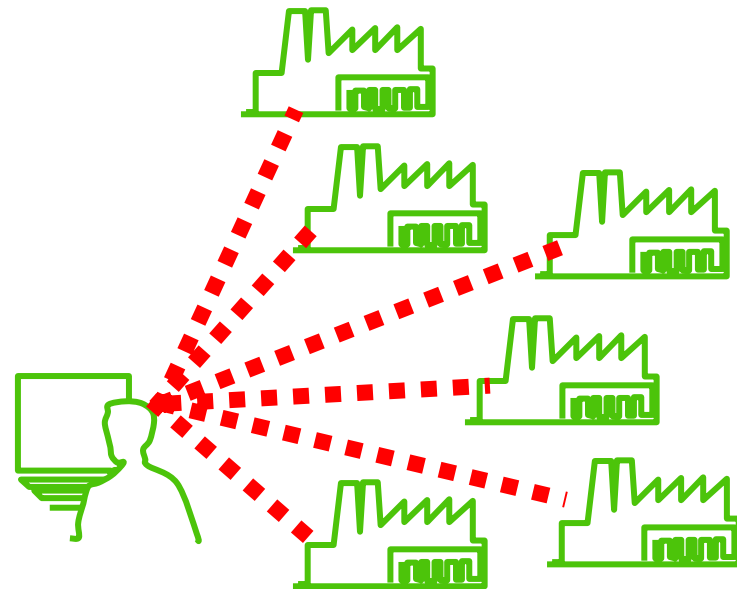
- Overall picture of plant energy use
- Summary of energy cost distributions
- Preliminary assessment & comparison
- Areas or energy efficiency improvement
- Energy cost reduction potential



Qualified Specialists

DOE and its partners also conduct rigorous training sessions and administer examinations to certify Qualified Specialists in specific software decision tools. Individuals qualified through this process are certified to apply DOE energy management decision tools at industrial facilities.

Approximately 400 Qualified Specialists are located around the country.





Industrial Assessment Centers and Manufacturing Extension Partnership MOU

IAC: Network of Universities that deliver free assessments to industry.

MEP: Nationwide network of resources transforming manufacturers to compete globally, supporting greater supply chain integration, and providing access to technology for improved productivity

IACs

- Each IAC will have an individual action plan for MEP in their region
- Will train MEP centers to address energy issues in manufacturing plants
- Will work with MEP centers in their regions to disseminate information on ITP products and services
- Visits planned for 1st quarter of FY 07

MEPs

- Reach 18,000 small-to-medium sized manufacturers per year
- Provide range of services:
 - process improvements
 - worker training
 - business practices
 - information technology
- After initial IAC training, will self select for additional training



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Resources for Plants to Save Energy

- Energy analysis software tools
- Case studies/tip sheets/manuals
- Energy efficiency training for plant staff
- Qualified software specialists
- DOE-supported energy assessments
- Plant information package & CD

Info Center: 877-337-3463

Websites: www.eere.energy.gov/industry
www.eere.energy.gov/industry/saveenergynow

